Message

From: MacNicholl, Peter@DTSC [Peter.MacNicholl@dtsc.ca.gov]
Sent: 6/26/2018 6:38:55 PM
To: MacDonald, Alex@Waterboards [Alex.MacDonald@waterboards.ca.gov]; Fennessy, Christopher [christopher.fennessy@Rocket.com]; Keller, Lynn [Keller.Lynn@epa.gov]
Subject: Fw: Area 40 RAP - Cleanup Standards Table

Hi All,

Please see Valerie's response to Alex's comments from earlier this morning. I hope this identifies DTSC's position/recommendations with the table and facilitates any additional follow up discussions.

-Pete

From: Hanley, Valerie@DTSC
Sent: Tuesday, June 26, 2018 11:28 AM
To: MacNicholl, Peter@DTSC
Subject: RE: Area 40 RAP - Cleanup Standards Table

Pete,
Please see my draft responses to Alex's comments below.

In Response to Alex's Comments on 6/26:

1) This was expected to generate discussion and is important. We have recently been informed by Engineering Services (ESPO) that they do not allot a specific protection factor for vapor intrusion mitigation. We've stated previously (as noted by Alex and Pete) that clean-up will be based on 1x10-6. I think it is reasonable to expect a lower attenuation factor than the 0.03 but we need to have multiple lines of evidence and provide some justification since ESPO isn't just going to equate a certain protection/attenuation based on vapor mitigation and that was the justification provided in the table.

2) I don't agree that this table should reflect the risk assessment. The risk assessment aims to evaluate the current risks to all potential receptors, which informs the clean-up goals. The clean-up goals should be protective of the most sensitive receptor that will be using the land. I think it is very confusing to have so many different clean-up goals for a site. The construction worker is never the end-user so having a specific clean-up goal for that receptor is odd. This also comes down to how we communicate the clean-up goals.

3) Similar to my above comment. If the recreation worker and the recreator "inhabit" the same land (i.e the area of the site being designated for recreational use), then there should be a single clean-up goal for that area and it should be based on the most sensitive receptor i.e. the worker. If the worker is only assumed to have exposure to smaller portion of the site (ie a kiosk/guard station), then it may make sense to have two different sets of clean-up goals for that smaller area than the larger open space areas. I agree that an assumed attenuation factor of 0.03 from soil vapor to outdoor air in open space areas is overly conservative. I'm curious, and I apologize for not knowing or recalling off the top of my head, if we have calculated the actual attenuation we see based on the outdoor air monitoring and soil vapor concentrations? That would be a line of evidence to help support these values.

4) DTSC routinely recommends a 1x10-5 clean up goal for dioxins as documented in our Human Health Risk Assessment Note 2. We can certainly hold Aerojet to a higher standard, I just wanted to make standard practice known.

5) I was confused as to why the clean up goals for groundwater and soil vapor for the recreational worker were double that of the commercial worker when the ambient air clean-up goals are the same. My initial feedback on that value to Pete was that it was unclear why those values were doubled. If there is justification provided that is sound, I'm certainly open to that discussion.

The ambient air clean up goals are basically the same (with small variances) for the worker and recreator scenarios yet the groundwater and soil vapor clean-up goals are drastically different in the original table by multiple orders of magnitude. This will be difficult to communicate with the public.

From: MacDonald, Alex@Waterboards [mailto:Alex.MacDonald@waterboards.ca.gov]
Sent: Tuesday, June 26, 2018 9:05 AM
To: MacNicholl, Peter@DTSC <Peter.MacNicholl@dtsc.ca.gov>; Fennessy, Christopher (christopher.fennessy@Rocket.com) (christopher.fennessy@Rocket.com) <christopher.fennessy@Rocket.com>; Keller, Lynn (Keller.Lynn@epa.gov) <Keller.Lynn@epa.gov>
Cc: Hanley, Valerie@DTSC <Valerie.Hanley@dtsc.ca.gov>
Subject: RE: Area 40 RAP - Cleanup Standards Table

Peter: I do have some issues with the proposed modifications to the cleanup standards drafted by Aerojet Rocketdyne as follows based on your numbered items:

1. I am not sure if I am understanding this correctly, but are we saying that the cleanup standard will be such that no vapor mitigation system will be needed? If so, why is there a requirement to have a vapor mitigation system? This is contrary to what EPA has presented on this site from Dan Stralka. If the listed modified standard is being used, are we going to state that residences will be allowed as proposed as long as vapor mitigation is provided until the concentrations are below those that would prohibit residences even with vapor mitigation? The remedy does not propose to actively remediate those concentrations in the area exceeding 16 µg/m3 that is proposed for residences but relies on removal near the source area to sufficiently reduce the concentrations in outdoor air and for natural attenuation of the residuals to eventually dissipate the concentration to below levels of concern (16 µg/m3 for TCE). If the proposed lowered standard is kept, then this all needs to be explained. Otherwise I would think the public would assume that there will be no residences until the concentrations are below 16 µg/m3 in the subsurface. Similar comment and questions regarding the commercial buildings in the park area.
2. I do not think we need to remove the values for construction worker. This table should be a summary from the Risk Assessment where it stated that concentrations exceeded values for protection of construction workers. The initial table shows that the remedy will protect construction workers – better to show that they are protected than argue why there need not be any values for their protection.
3. Likewise for the recreator. The Risk Assessment evaluated the recreator and showed that concentrations of pollutants exceed values for protection of the recreator. Those were not the same values as the recreation worker as the exposure scenarios were different. Same essential issue as the

construction worker – better to show what values are needed to protect the recreator and show how the remedy achieves that.

4. We have informed the public at several meetings now that we are going to 1x10-6 incremental cancer risk values for the pollutants on Area 40. I do not believe we should change that now. This was not a product of the risk assessment. Any backtracking will provide more justification for the public to distrust the proposal.
5. I have some questions on the proposed values in the table. The values used in the Commercial columns are the same as the original, with the exception of soil vapor to indoor air (changed based on same logic as item 1 for residential I assume). However, for the recreational work the outdoor air to indoor air values remained the same, the groundwater to indoor air values dropped by 50% and the soil vapor to indoor air values dropped similarly to that for the other soil vapor indoor air scenarios. Why did the groundwater to indoor air values drop for the recreator scenario and remain the same for the commercial?

Looking forward to discussing this with the group and clarifying in my mind what is being proposed and why.

Alex

From: MacNicholl, Peter@DTSC [mailto:Peter.MacNicholl@dtsc.ca.gov]
Sent: Monday, June 25, 2018 3:04 PM
To: Fennessy, Christopher (christopher.fennessy@Rocket.com) (christopher.fennessy@Rocket.com) <christopher.fennessy@Rocket.com>; MacDonald, Alex@Waterboards <Alex.MacDonald@waterboards.ca.gov>; Keller, Lynn (Keller.Lynn@epa.gov) <Keller.Lynn@epa.gov>
Cc: Hanley, Valerie@DTSC <Valerie.Hanley@dtsc.ca.gov>
Subject: Area 40 RAP - Cleanup Standards Table

Hi All,

After discussing the table and its levels with HERO staff, we've inserted revised cleanup goals into the table based on several assumptions:

1. Due to the short-term health effects of TCE and assuming there can be failures in the vapor mitigation system allowing human exposure(s), an attenuation of 100X is not appropriate. FYI DTSC's Engineering Services also does not take the vapor mitigation devices into effect due to the potential failure and resulting exposure routes.
2. Clean-up goals for construction workers were removed as this is a transient exposure scenario. Environmental clean-up goals should be based on the potential future end-use of the land (i.e residential, commercial, etc.)
3. Clean-up goals specific to the recreator were removed. The clean-up goals for the recreational worker will be protective of the recreator; as such a single clean-up value is recommended.
4. The cleanup value for Dioxins/Furans is identified as 6.8 ng/kg and appears to correspond with a health risk of 1x10-6. This value will be used to cleanup the dioxins/furans to unrestricted use levels even though the area will be used as a Park/Open Space and includes those applicable exposure scenarios. No residential level was identified since there is no dioxin/furan contamination in the area proposed for residential development to the north and those areas to the south where no releases occurred. DTSC's HERO staff identified that a cleanup standard of 50 ng/kg is acceptable for

residential development and corresponds to the cumulative risk of 1x10-5. HERO is supporting a cleanup goal associated with a theoretical potential cancer risk of 10-5 because epidemiological studies have demonstrated that exposure to dioxin-contaminated soil is responsible for only a minimal contribution to the dioxin human body burden which suggest that the value of 10-5 is likely a large overestimation of the actual risk.

I'd like to get your feedback at the earliest convenience with the goal of incorporating this table into the RAP but also share with the community to give them piece of mind with the cleanup standards.

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